DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 09, 2008 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 3 – 8 and 12 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 5 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Speakman, US 2007/0087564.

Regarding claim 1, Speakman teaches a method of manufacturing an electrically

conductive member having an electrically conductive film on a surface of a substrate, comprising the steps of: (i) applying a colloid solution of a liquid medium and a colloid, said colloid having a core of a metal colloidal particle and a shell of an organic substance (this is inherent in a colloidal solution since the organic moiety adsorbs on the surface of the metal particle to form a charged surface that keeps the colloidal particles suspended in the solution) to a porous surface of the substrate to form a layer containing the colloid on the substrate; and (ii) drying the layer containing the colloid with infrared radiation to remove the organic substance and the liquid medium and to anchor the metal colloid particles without adversely effecting the substrate (this is inherent since the colloidal structure will collapse due to the absorption of the liquid medium and surface active molecules by the porous substrate thereby anchoring the metal colloid particles and the radiation drying especially with an infrared will not raise the substrate temperature high enough to have any adverse effect on the substrate), thereby forming an electrically conductive layer in various places of the disclosure especially in paragraphs 17, 18,, 28, 55, 110, 151, 226, 233, 240, 243, 251, 464 and 480.

Regarding claim 3, Speakman teaches the metal is gold and platinum in paragraphs 233 and 480.

Regarding claims 5 and 6, Speakman teaches the method includes the step of forming the layer containing the colloid on the porous surface in a position – selective manner by applying the colloidal solution to the porous surface by inkjet deposition in

paragraphs 17 – 20. The use of the term drop on demand inherently signifies a position – selective deposition process.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 4, 7, 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Speakman, US 2007/0087564 in view of the Admitted Prior Art (APR).

Regarding claim 4, Speakman fails to disclose applying the colloidal solution to the surface by a spin coating method.

The APA teaches that the colloidal solution can be applied to the surface by a spin coating method for the benefit of forming a film with excellent electrical conductivity in page 2, lines 2 – 12.

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to modify Speakman and apply the colloidal solution to the surface by a spin coating method for the benefit of forming a film with excellent electrical conductivity as taught by the APA in page 2, lines 2 – 12.

Regarding claim 7, Speakman teaches the use of ceramic substrates in paragraph 368, but fails to disclose that the vicinity of the porous surface, including the surface, has a pseudobehmite structure.

The APA teaches applying colloidal solution on a substrate having a porous structure of pseudobehmite type for the benefit of greatly improving the quality of an electrically conductive film by the excellent ink absorbing capacity and high image

density of the substrate (see English abstract of JP 2000318308) in page 11, lines 1 – 5.

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to modify Speakman and supply the porous surface with a pseudobehmite structure for the benefit of greatly improving the quality of an electrically conductive film by the excellent ink absorbing capacity and high image density of the substrate as taught by the APA in page 11, lines 1 – 5.

Regarding claim 8, Speakman fails to disclose that the following condition is satisfied when it is assumed that an average particle diameter of the metal colloid is Θ_1 ave and that an average pore diameter of the porous surface is Θ_2 ave: Θ_1 ave >= Θ_2 ave.

However, it would have been obvious to one with ordinary skill in the art at the time of the invention that the relation Θ_1 ave >= Θ_2 ave will hold true since otherwise the ink will not be absorbed in the porous layer and the quality of an electrically conductive film will not be so great.

Regarding claim 12, Speakman teaches using the film in IC chips and semiconductor substrates in column 1, lines 10 – 18, but fails to teach that the electrically conductive member has portions in contact with an organic semiconductor

However, it would have been obvious to one with ordinary skill in the art at the time of the invention that the electrically conductive member has portions in contact with an organic semiconductor since organic semiconductors are known to be used in many

commercial OLED and organic TFT devices and Speakman teaches use of organic semiconductors in paragraph 488.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Asok K. Sarkar whose telephone number is 571 272 1970. The examiner can normally be reached on Monday - Friday (8 AM- 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William B. Baumeister can be reached on 571 272 1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Asok K. Sarkar/
Primary Examiner, Art Unit 2891

June 11, 2008